

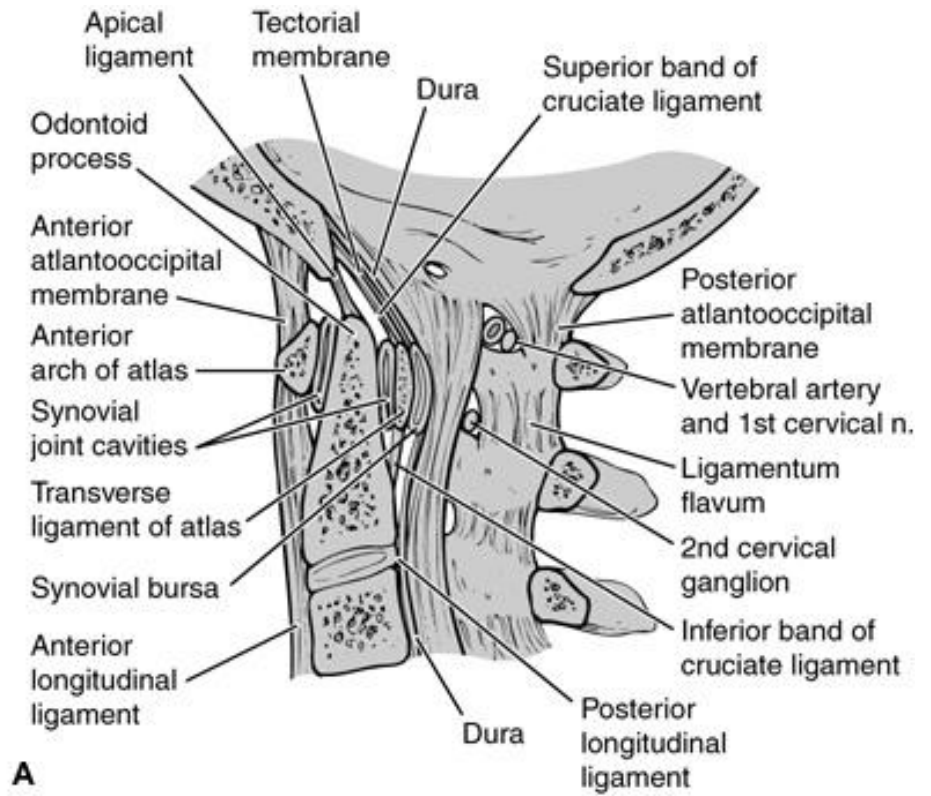
ANATOMY

Cervical spine

Anatomy  
Apical ligament

Alar ligament

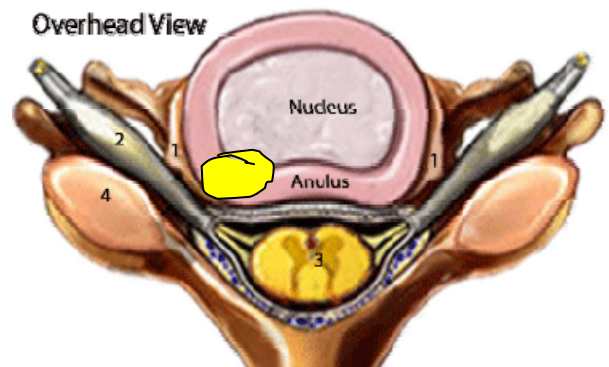
Transverse ligament  
Tectorial membrane



Luska joint

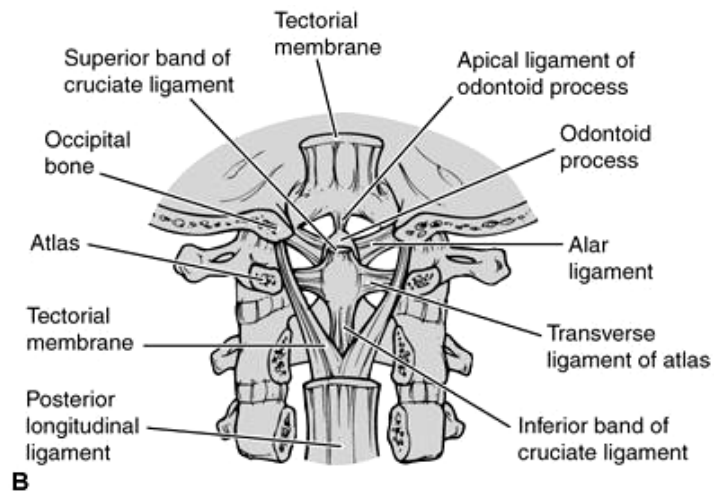
The Luschka Joint's are not true joints, mere projections of the postero-lateral corner of the vertebral body of cervical vertebra

They make up the anteriomedial boundary of the neural foramen in the cervical spine and occasional can develop spur formation. These spurs may progress slowly over time and cause trouble if they encroach severely upon the nerve root.



Vertebral artery enters through C6 spinous process

1. Apical ligament  
: Tip of the Odontoid to C0
2. Alar Ligament  
: Side of the odontoid to C0
3. The transverse ligament  
: fixed at the tubercle on the lateral mass C1 provides stability in flexion and also prevents anterior translation
4. Posterior longitudinal ligament continues at C2 to C0 as tectorial membrane



### Range of movement of cervical spine at Occiput to C1

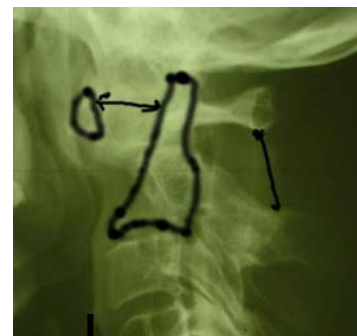
- 21° of extension
- 3° of flexion
- 7° of rotation
- 5° of lateral bending

### Atlanto-Axial joint [AA]

50% of the rotation in the cervical spine  
The midsagittal diameter of the cord is one third of the midsagittal diameter of the inner surface of the axis

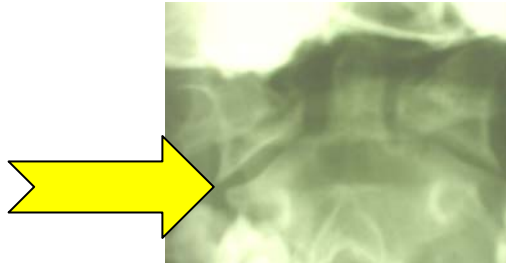
### Radiological measurement

1. Atlanto-axial Distance [AAD] 3mm AA in adults  
And 4.5 in children



## 2. Atlanto-axial lateral Overhang

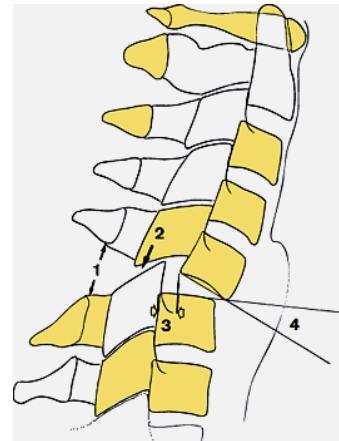
More than 7 mm AA in C1 fracture is unstable.



## 3. Cervical instability

3.5 mm instability on flexion-extension X ray

11° angulation



## 4. Cervical Stenosis

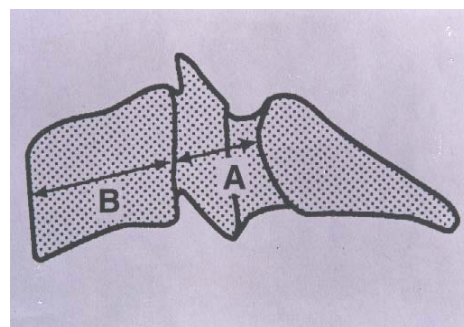
Normal Midsagittal diameter 17 mm

Stenosis <13mm

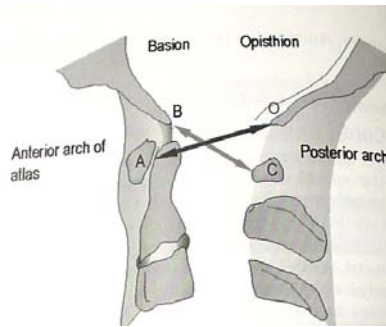
## 5. Pavlov ratio or Torg's ratio

[Anteroposterior canal /anteroposterior diameter of the body]

Normal	1
Relative stenosis	0.8-1
Stenosis	<0.8



6. Power ratio:  
Normal = 1



7. Ranawat lines

